

IN THE CLAIMS

Please cancel Claim 8 without prejudice or disclaimer.

Claim 1 (currently amended): An apparatus for controlling an actuator having a moveable member and having a coil that influences movement of the member via a drive current to said coil, comprising:

a sensing circuit for sensing a voltage corresponding to the voltage across said coil and providing a first signal corresponding to said sensed voltage and indicative of the velocity of said moveable member;

a generation circuit for providing a second signal indicative of a target voltage corresponding to a target velocity for said moveable member; and

a controller receiving said first signal and said second signal and responsive thereto for determining a compensation signal characterized as an analog type response regulated to said target voltage for effectuating said target velocity,

wherein said controller includes a first node for receiving said first signal and said second signal and determining a difference therebetween and providing said difference to a proportional ~~part~~ circuit and an integrator ~~part~~;

said integrator ~~part~~ providing a third signal which is indicative of a mathematical integration of said difference and said proportion ~~part~~ circuit providing a forth signal which is indicative of a multiple of said difference; and

said controller further having a summing node for receiving said third signal and said forth signal and responsive thereto for determining a summed signal which corresponds to said compensation signal,

said integrator ~~part~~ further including a cancellation circuit coupled with said sensing unit and operable for determining a DC offset and providing said DC offset to

said integrator part for said mathematical integration for canceling said DC offset from said compensation signal.

Claim 2 (original): The apparatus of Claim 1, wherein said compensation signal is further characterized as an analog type response regulated to said target voltage with a resolution free of ripple about said target voltage.

Claim 3 (original): The apparatus of Claim 1, wherein said compensation signal is characterized by a voltage step which is proportional to a remaining error with an infinite resolution approaching said target voltage over a constant time period.

Claim 4 (cancelled)

Claim 5 (previously presented): The apparatus of Claim 1 wherein said third signal is a voltage signal characterized by a voltage step which is proportional to a remaining error.

Claims 6 - 8 (cancelled)

Claim 9 (original): The apparatus of Claim 8, wherein said DC offset is determined prior to sensing said coil voltage.

Claim 10 (original): The apparatus of Claim 1 further including an amplifier unit having an input for receiving said compensation signal and responsive thereto for providing a corresponding current for application to said coil.

Claims 11-16 (cancelled)